

# PATENT SPECIFICATION

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## (54) PACKING AND DISPENSER FOR FLOWABLE MATERIALS

(71) We, CHEMISCHE FABRIK STOCKHAUSEN & CIE, a Kommanditgesellschaft organised according to the laws of the Federal Republic of Germany, of 4150 Krefeld, Bäckerspfad 25, Federal Republic of Germany do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a packing container for flowable materials, for example, soap powders or other granular or flake-like materials for washing hands, which also serves as a dispenser for these materials and can be used on a suitable wall mounting.

The present invention provides a packing and dispenser for flowable materials, which comprises a container made of a moisture-resistant material or having a moisture-resistant lining, and a ball-shaped dispensing control body which has a smooth surface and is mounted within the container, the container being of truncated pyramidal or frusto-conical form, the smaller end wall of the container being formed with an outlet opening which is circular and so dimensioned that it can be closed by the ball-shaped dispensing control body, and the said body being so mounted in guide means within the container that, when the container is mounted in its inverted operating position, the dispensing body can be pushed upwards by pressure applied manually from outside the container, said upward movement opening up a gap through which the material to be dispensed can flow out of the container through the outlet opening, and that, on release of the manual pressure, the control body falls down under the action of a restoring force (which may be solely gravitational) so that it closes the outlet opening, wherein the guide means for the ball comprises two trapezoidal plates which are interlocked by means of one or more slots into the shape of a cross, the said

parts being provided with cut-out portions which together define a guide path for the ball which terminates at a stop at the end remote from the outlet opening.

The packing and dispenser of the invention is especially suitable for use with soap powders or other granular or flake-like materials for washing hands. It will of course be appreciated that the granular or other material must not have too large a particle size, otherwise it will not be able to flow out of the gap between the dispensing ball and the edge of the outlet opening in the container.

Advantageously, the width of the guide path provided by the trapezoidal plates is such that, on rotation of the ball, flowable material adhering thereto is scraped off by the edges of the cut-out portions.

The outlet opening of the container may be up to 5% smaller than the diameter of the ball-shaped control body, or even smaller, but is preferably approximately 3% smaller than that diameter. In general, the opening will be located substantially centrally in the smaller end wall of the container.

Advantageously, the container is of truncated pyramidal form, preferably with square or rectangular end walls.

Although the movement of the ball-shaped dispensing control body to close the dispensing outlet may be spring-assisted, the restoring force is preferably substantially wholly gravitational.

Advantageously, the container is made from a single blank.

Accordingly, one form of dispenser according to the invention consists of three blanks (punched parts) and a ball.

The blanks can be made of any materials unaffected by moisture such as, for example, plastics material, grey cardboard, corrugated cardboard, sheet metal (aluminium or steel) and the like.

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The ball-shaped dispensing control body may consist of any material such as wood, glass, plastics material or of corrosion-resistant metal.

- 5 The invention also provides a combination comprising a packing and dispenser according to the invention, mounted in inverted operating position in a wall mounting comprising a base of which the width  
10 corresponds to the larger end wall of the container, and which has lateral guide and support flanges extending downwardly therefrom and inclined towards each other at an angle corresponding to the inclination  
15 of the sides of the container.

The mounting may be manufactured from sheet metal or plastics material.

- One form of packing, dispenser and mounting according to the invention will  
20 now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 shows a blank 1, containing basal face 2, hole 3, flap 9;

- 25 Fig. 2a is a fragmentary cross-sectional view showing the dispensing outlet, ball and guide means;

- Figs 2b and 2c show the trapezoidal plates 5 and 6 and cutout 4 which, when  
30 the plates are interlocked, provide the guide means for the ball;

Fig. 2d shows the ball (7) itself;

Figs. 2e and 2f show a mounting 8 for the dispenser; and

- 35 Fig. 3 is an elevational view of the assembled dispenser.

Referring to the accompanying drawings, the blank 1 is so shaped that after fitting together and pinning it forms a pyramid cut  
40 away at the top (truncated pyramid), that is to say, a pyramid having a large and a small basal face.

- The large basal face forms the container lid, which is firmly closed after the container  
45 has been filled.

The small basal face (2) has a centrally punched hole (3) the diameter of which is about 3% smaller than the diameter of the ball (7).

- 50 Together with the ball (7) the small basal face forms the discharge opening of the dispenser. The punched plates (5) and (6) are interlocked at right angles to one another by inter-engaging the slots provided for this  
55 purpose. The punched out openings (4) at the narrow sides of the parts (5) and (6) form a guide path for the dispensing ball (7) when the parts (5) and (6) are in their assembled state, and at the same time form  
60 a stop for the ball.

Assembly and filling of the container/dispenser is carried out as follows.

- The punched blank (1) is fitted together and pinned. The larger square basal face  
65 is left open for the time being.

The hole (3) in the basal portion (2) of the blank (1) is closed by a flap (9). The flap is glued at the side. This flap (9) is so designed that when torn away later the material of the blank (1) is not damaged. 70

The truncated pyramid is arranged with the small closed face (2) at the bottom. The ball (7) is inserted. The parts (5) and (6) are fitted together and then placed inside the pyramid so as to hold the ball in the  
75 guide path between the cut-outs (4).

The dispenser is filled with a flowable material (for example, a soap powder or other hand-cleaning agent in granular or flake form) and is then closed by means of  
80 the large basal face.

For use, the wall mounting (8) is secured to a suitable place. The dispenser is pushed between flanges of the wall mounting (8) which are bent so that they taper down-  
85 wards.

The flap (9) covering the small basal face is torn off.

The ball (7) lying inside falls into and closes the punched hole (3), and the dispenser is now ready for operation, (Fig. 3). 90

If the palm of the hand is now pressed from below upwards against the ball (7), this moves away from the edge of the hole (3). It can be pushed upwards as far as  
95 the cutouts in the punched parts (5) and (6) permit. The flowable product is now able to trickle past the ball (7), through the hole in the basal portion (2) and onto the palm of the hand. If the hand is removed, the  
100 ball (7) falls down and re-closes the opening in the basal portion.

If the ball (7) becomes wet as a result of the dispenser being used with wet hands, material will collect on the ball  
105 as a result of this moisture. This material can be removed by turning the ball, thereby scraping off adherent material against the punched edges of the guide channel formed by parts (5) and (6). If the  
110 dispenser is empty, it can be taken out of the wall mounting (8) and replaced by a new one.

The structure made of punched sheet material is at the same time the packing as  
115 marketed and the dispenser.

If the dispenser consists of cardboard or corrugated cardboard, once it is empty it can be destroyed in a manner which is not harmful to the environment. The dispenser  
120 is hygienic in use because it is replaced completely when it is empty.

As the dispenser consists of flat component parts before it is fitted together,  
125 space-saving storage is assured.

The ball located in the dispenser can be employed further for other purposes after use.

#### WHAT WE CLAIM IS:

1. A packing and dispenser for flowable 130

- materials, which comprises a container made of a moisture-resistant material or having a moisture-resistant lining, and a ball-shaped dispensing control body which
- 5 has a smooth surface and is mounted within the container, the container being of truncated pyramidal or frusto-conical form, the smaller end wall of the container being formed with an outlet opening which is circular and so dimensioned that it can be closed by the ball-shaped dispensing control body, and the said body being so mounted in guide means within the container that, when the container is mounted in its inverted operating position, the dispensing body can be pushed upwards by pressure applied manually from outside the container, said upward movement opening up a gap through which the material to be dispensed can flow out of the container through the outlet opening, and that, on release of the manual pressure, the control body falls down under the action of a restoring force (which may be solely gravitational) so that it closes the outlet opening, wherein the guide means for the ball comprises two trapezoidal plates which are interlocked by means of one or more slots into the shape of a cross, the said parts being provided with cut-out portions which together define a guide path for the ball which terminates at a stop at the end remote from the outlet opening.
2. A packing and dispenser as claimed in claim 1, wherein the width of the guide path is such that, on rotation of the ball, flowable material adhering thereto is scraped off by the edges of the cut-out portions.
- 40 3. A packing and dispenser as claimed in claim 1 or claim 2, wherein the diameter of the outlet opening is up to 5% smaller than the diameter of the dispensing control

body.

4. A packing and dispenser as claimed in claim 3, wherein the diameter of the outlet opening is approximately 3% smaller than the diameter of the dispensing control body.

5. A packing and dispenser as claimed in any one of claims 1 to 4, wherein the outlet opening is located substantially centrally in the smaller end wall of the container.

6. A packing and dispenser as claimed in any one of claims 1 to 5, wherein the container is of truncated pyramidal form,

7. A packing and dispenser as claimed in claim 6, wherein each end wall of the container is square.

8. A packing and dispenser as claimed in any one of claims 1 to 7, wherein the container is formed from a single blank.

9. A packing and dispenser for flowable materials, substantially as hereinbefore described with reference to, and as shown in, Figs. 1, 2a to 2d and 3 of the accompanying drawings.

10. A combination comprising a packing and dispenser as claimed in any one of claims 1 to 9, mounted in inverted operating position in a wall mounting comprising a base of which the width corresponds to the larger end wall of the container, and which has lateral guide and support flanges extending downwardly therefrom and inclined towards each other at an angle corresponding to the inclination of the sides of the container.

11. A combination as claimed in claim 10, substantially as hereinbefore described with reference to, and as shown in, Figs. 2e, 2f and 3 of the accompanying drawings.

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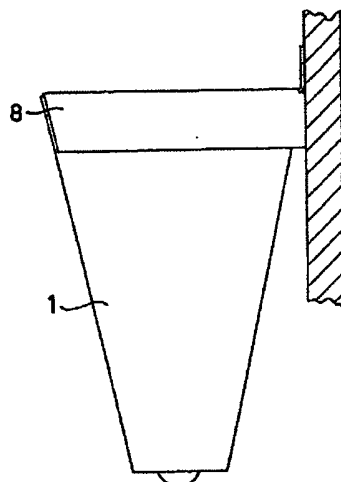
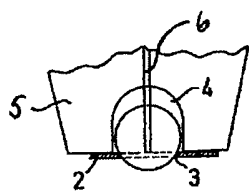
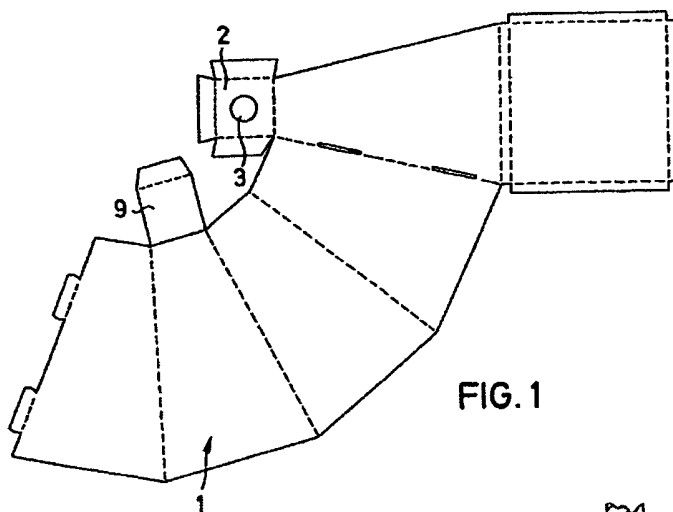
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COMPLETE SPECIFICATION

2 SHEETS

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the Original on a reduced scale*

Sheet 1



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COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of  
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Sheet 2*

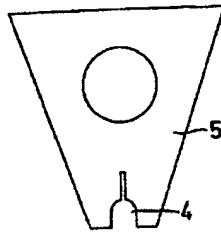


FIG. 2b

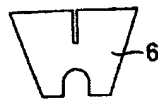


FIG. 2c

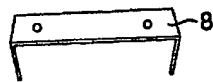


FIG. 2e

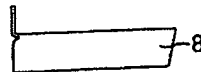


FIG. 2f



FIG. 2d

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